

Claims

What is claimed:

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1. A method of electrically stimulating selected regions of a subject's heart having an implanted stimulus generator having an intracavitarily disposed electrode disposed in the subject, said method comprising the steps of:

inserting into the subject at least one conductor having at least two electrical contacts thereon;

contacting a portion of the heart to be stimulated with the electrical contact of the conductor;

positioning the electrical contact of the conductor in contact with myocardial tissue such that an electrical stimulus delivered by the implanted stimulus generator creates an electrical potential difference at each contact of the conductor;

generating a stimulus from the implanted stimulus generator; and

discharging the electrical stimulus from the intracavitarily disposed electrode wherein the stimulus is conducted through the myocardial tissue and through at least one electrical conductor and is transferred to the regions of the heart contacting the electrical contacts of the conductor, whereby the current is sufficient to stimulate tissue of the heart.

2. A method according to claim 1, wherein said inserting step further comprises surgically implanting the conductor.

1 3. A method according to claim 2, wherein said surgically
2 implanting step is further defined as thorascopically implanting the conductor.

1 4. A method according to claim 1, wherein the implanted stimulus
2 generator is selected from the group consisting of a pacemaker and a
3 defibrillator.

1 5. A method according to claim 1, wherein the conductor
2 comprises an insulator disposed about at least a portion of the conductor.

1 6. A method according to claim 1, wherein the conductor
2 comprises a metallic wire.

1 7. A method according to claim 1, wherein the conductor
2 comprises a metallic strip.

1 8. A method according to claim 1, wherein the conductor
2 comprises a ribbon of conductive material.

1 9. A method according to claim 1, wherein the conductor includes
2 at least one electrical component disposed in electrical communication
3 therewith.

1 10. A method according to claim 9, wherein the electrical
2 component comprises a diode.

1 11. A method according to claim 9, wherein the electrical
2 component comprises a device capable of storing energy.

1 12. A method according to claim 11, wherein the electrical
2 component comprises a capacitor.

1 13. A method according to claim 9, wherein the electrical device
2 comprises a resistor.

1 14. A method according to claim 9, wherein the electrical
2 component comprises a microprocessor.

1 15. A passive conductor assembly for use with an implanted
2 stimulus generator having an intracavitarily disposed stimulating lead for
3 stimulating the heart of a subject, said conductor assembly comprising:

4 at least one conductive element having at least two electrically
5 conductive contacts for contacting a portion of the heart of the subject.

1 16. A conductor as set forth in claim 15, wherein said conductive
2 element comprises an insulator disposed about at least a portion of said
3 conductive element.

1 17. A conductor as set forth in claim 15, wherein said conductive
2 element comprises a metallic wire.

1 18. A conductor as set forth in claim 15, wherein said conductive
2 element comprises a metallic strip.

1 19. A conductor as set forth in claim 15, wherein said conductive
2 element comprises a ribbon of conductive material.

1 20. A conductor as set forth in claim 15, wherein said conductive
2 element includes at least one electrical component disposed in electrical
3 communication therewith.

1 21. A conductor as set forth in claim 20, wherein said electrical
2 component comprises a diode.

1 22. A conductor as set forth in claim 20, wherein said electrical
2 component comprises a device capable of storing energy.

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1 23. A conductor as set forth in claim 22, wherein said electrical
2 component comprises a capacitor.

1 24. A conductor as set forth in claim 20, wherein said electrical
2 component comprises a resistor.

1 25. A conductor as set forth in claim 20, wherein said electrical
2 component comprises a microprocessor.

1 26. A method of neurally stimulating the heart of a subject, said
2 method comprising the steps of:

3 disposing at least one conductor having at least two electrically
4 conductive contacts adjacent to a portion of a heart in close proximity to an
5 intracavitarily disposed electrode of an implanted stimulus generator;

6 contacting a portion of the heart with the electrically conductive
7 contacts of the conductor;

8 positioning the electrically conductive contacts of the conductor in
9 contact with myocardial tissue such that an electrical stimulus delivered by the
10 implanted stimulus generator creates an electrical potential difference at each
11 of the electrically conductive contacts of the conductor inducing the flow of
12 current therethrough; and

13 generating an electrical stimulus from the implanted stimulus generator
14 and discharging the electrical stimulus from the intracavitarily disposed

15 electrode wherein the stimulus is conducted through the myocardial tissue and
16 through at least one electrically conductive contact and is conducted to the
17 regions of the heart contacting other of the electrically conductive contacts of
18 the conductor; and

19 selectively stimulating neural tissue of the heart.

1 27. A method according to claim 26, wherein said inserting step
2 further comprises surgically implanting the conductor.

1 28. A method according to claim 27, wherein said surgically
2 implanting step is further defined as thorascopically implanting the conductor.

1 29. A method according to claim 26, wherein the implantable
2 stimulus generator is selected from the group consisting of a pacemaker and a
3 defibrillator.

1 30. A method according to claim 26, wherein the conductor
2 comprises an insulator disposed about at least a portion of the conductor.

1 31. A method according to claim 26, wherein the conductor
2 comprises a metallic wire.

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1 32. A method according to claim 26, wherein the conductor
2 comprises a metallic strip.

1 33. A method according to claim 26, wherein the conductor
2 comprises a ribbon of conductive material.

1 34. A method according to claim 26, wherein the conductor
2 includes at least one electrical component disposed in electrical communication
3 therewith.

1 35. A method according to claim 34, wherein the electrical
2 component comprises a diode.

1 36. A method according to claim 26, wherein the electrical
2 component comprises a microprocessor.

1 37. A method according to claim 34, wherein the electrical
2 component comprises a device capable of storing energy.

1 38. A method according to claim 37, wherein the electrical
2 component comprises a capacitor.

1 39. A method according to claim 34, wherein the electrical device
2 comprises a resistor.

1 40. A method according to claim 26, wherein said selectively
2 stimulating step further includes modifying the electrical stimulus prior to
3 contacting the heart whereby the stimulus substantially only stimulates neural
4 tissue.

1 41. A method for electrically stimulating a preselected area of a
2 heart comprising the steps of:
3 attaching one end of an electric wire to a first area of the heart so that
4 said one end of said wire is in electrical contact with said first area of the heart,
5 and
6 attaching a second end of an electric wire to the preselected area of the
7 heart so that said second end of said wire is in electrical contact with said first
8 preselected area of the heart,
9 wherein said first and said preselected areas of the heart attain different
10 electrical potential levels during cardiac contraction.

1 42. The invention as defined in claim 41 wherein said wire includes
2 electrical insulation between its ends.

1 43. The invention as defined in claim 41 wherein each attaching
2 step comprises the step of suturing said wire to the heart.

1 44. The invention as defined in claim 41 and comprising the step of
2 attaching at least one intermediate point of said wire to the heart so that said
3 intermediate point of the wire is in electrical contact with the heart.